

APPENDIX B

I-PLAN

for

CADASTRAL

CADASTRAL IMPLEMENTATION PLAN

1. EXECUTIVE SUMMARY

Cadastral data are defined as the geographic extent of the past, current, and future rights and interests in real property, including the spatial information necessary to describe that geographic extent. The spatial information necessary to describe rights and interests includes surveys and legal description frameworks such as the Public Land Survey System (PLSS), locational control of such surveys, and parcel-by-parcel surveys and descriptions.

The Cadastral I-Plan shall provide direction in 1) the creation, maintenance, and distribution of cadastral data; 2) standardization of data format; 3) recommendations for funding and continued improvement of the cadastral layers; 4) coordination among local, state, and federal entities in the creation of cadastral data; and 5) a centralized location for the distribution of each cadastral layer.

The Cadastral I-Plan addresses the cadastral dataset as three layers:

- Spatial Reference is primarily geodetic and PLSS control points.
- PLSS grid to the quarter/quarter (QQ) section, including Special Surveys. This is generally defined as the Geographic Coordinate Database (GCDB), originally produced by the US Bureau of Land Management (BLM).
- Parcels define public, federal, state, tribal, and private ownership.

The Spatial Reference layer controls the location of the PLSS, which controls the location of the parcels. Better reference coordinates are used to recompute the PLSS, which provides a better framework to recompute parcel locations.

This I-plan makes the following recommendations:

- The recomputation of PLSS is to be overseen by a Registered Professional Land Surveyor (RLS) trained by BLM in the GCDB computation process. After recomputation, PLSS is delivered to, checked, and distributed by BLM. After the new PLSS is computed, BLM will notify Stakeholders of its availability.
- Regardless of software, all parcel data must, at a minimum, be exportable to a polygon format with a Parcel Identifier (PID) as an attribute.
- Federal and state entities should provide ownership information to the counties for integration into the county parcel layer.

- ITD warehouses the Spatial Reference layer, BLM distributes the PLSS layer, and each county is responsible for distributing a current version of its parcel layer with annual updates going to INSIDE Idaho.

2. DESCRIPTION

2.1 Theme Description

Cadastral data are defined as the geographic extent of the past, current, and future rights and interests in real property including the spatial information necessary to describe that geographic extent. Rights and interests are the benefits or enjoyment in real property that can be conveyed, transferred, or otherwise allocated to another for economic remuneration. Rights and interests are recorded in land record documents. The spatial information necessary to describe rights and interests includes surveys and legal description frameworks such as the PLSS, as well as parcel surveys and descriptions.

The cadastral theme is comprised of three layers:

Spatial Reference – These are the geodetic and geographic control points necessary to reference PLSS and parcel information to a real world coordinate system. At a minimum this means coordinates for PLSS corners. In its entirety this encompasses geodetic and other maintained and monumented locations. These control or coordinate values can take various levels of accuracy:

- Digitized from existing maps (e.g., monumented 1:24,000 section corner locations)
- GPS locations using resource-grade receivers
- GPS locations using survey-grade receivers
- Geodetic control or the High Accuracy Reference Network (HARN).

Those corner points in the GCDB shown as 1:24,000 or better resolution, plus any documented, surveyed monuments or corners, would be included in this layer.

PLSS – This refers to Townships/Sections/Aliquots/Lots and Special Surveys. The GCDB generally represents PLSS statewide. GCDB is complete for approximately 85% of Idaho. The remaining 15% is primarily unsurveyed or very complex townships. PLSS is information necessary to fit parcel information into a continuous and related layer. Control for this layer comes from the Spatial Reference layer.

Parcels – Parcel data represent the further division of the PLSS into individually owned parcels, most commonly referred to as tax parcels. The framework for the parcel layer should be the PLSS layer.

Private parcel data are typically maintained at the county level pursuant to Idaho Code requirements (Title 63) and Idaho State Tax Commission Rules and Regulations. In some cases parcel layers are created/maintained by cities, tribes, state, and federal entities as part of their business responsibilities. Tax parcels are described as aliquot portions of PLSS divisions (i.e., sections, $\frac{1}{4}$ sections, $\frac{1}{4}$ $\frac{1}{4}$ sections, etc.), as platted subdivision lots (e.g., Sunnyside Additions Lot 2 Block 6), as metes and bounds descriptions to which “Tax Numbers” are assigned for abbreviating complex descriptions for assessment notice purposes (e.g., Tax# 123456), and as variations of the above as portions of descriptions and/or remainders.

Federal ownership is maintained by BLM. In Idaho, the BLM's Idaho State Office, Geographic Sciences, maintains this data in one or more of three formats: 1) digitally tied to the GCDB; 2) as ink on mylar Master Title Plats; 3) in a variety of databases. Through the National Integrated Land System (NILS) project, this data is expected to be maintained and distributed nationally through a central database within the next five years. NILS will include at least BLM, US Forest Service, and military lands.

State land ownership is maintained by the Idaho Department of Lands (IDL). This layer is expected to be complete in 2003.

Tribal ownership is maintained by individual tribes. Tribal ownership can be five different types:

- Tribally owned trust land owned by the tribe is not taxable
- Tribally owned fee land bought by tribe and taxable
- Individually owned trust with tribally owned interest
- Individually owned trust
- Individually owned fee land

No time estimate is available yet for the completion of these parcels.

2.2 Vision Statement

The Cadastral I-Plan shall provide: 1) direction to cadastral data Authors in the creation, maintenance, and distribution of cadastral data; 2) standardization of data format to Consumers of cadastral data; 3) recommendations for funding and continued improvement of the cadastral layers; 4) a mechanism for coordination between local, state, and federal entities in the creation of cadastral data; and 5) a centralized location for the distribution of all cadastral layers.

2.3 Interdependencies

The cadastral theme and, in particular, the PLSS and Parcel layers, have relationships spatially to other framework and thematic data. One example would be a PLSS section line being the centerline of a road. Another would be a water feature being a parcel boundary.

The PLSS is derived from survey measurements and is not driven by a 'cartographic' layer such as hydrography. The Spatial Reference layer is the only interdependency with PLSS layer. The PLSS layer can be used to control the transportation or parcel layers where the two are coincident.

Parcels can use the PLSS, transportation, National Hydrography Dataset (NHD), Watershed Boundary Dataset (WBD) or topographic layers to control parcel boundaries.

3. BENEFITS AND RISKS

3.1 Benefits and Driving Issues

The Spatial Reference, PLSS and Parcel layers form the base of many other thematic layers. Spatial Reference can provide consistent control between themes. The PLSS defines many jurisdictional and ownership layers. Zoning, various jurisdictional boundaries, property rights, ownership, distribution of services and demographic/economic analysis can be derived from parcel information.

PLSS descriptions and PIDs are a locational descriptor in many agencies' databases. Having accurate, well-attributed PLSS and parcel layers provides the base for accurate mapping and analysis of a variety of data in these databases without having to digitize actual locations. Accurate PLSS can minimize time and effort for corner recovery by surveyors and landowners.

Precision farming, using GPS locations, is becoming more widespread. Having accurate base information allows farmers to use this technology more effectively.

Water and mineral rights are tied to parcels. The ability to map these quickly to a parcel layer can expedite presentation and accurate representation of this data. Cross-reference from a PID to the Federal ID number for a mineral surveys or state water right number would need to be done.

For E911, emergency response, and homeland security applications, cadastral data is a primary dataset for determining ownership boundaries for contacting affected owners, assessing damage and mitigation, and assigning appropriate responders. Cost-benefit analysis for estimating development costs can be performed more quickly with an accurate cadastral base, as well as providing other descriptive information and an attribute base for the linking other data for a variety of analysis purposes.

3.2 Risk Analysis

Spatial Reference – Spatial Reference information should be consistent among cadastral layers. Without the ability to use updated coordinate information to register PLSS and parcels, these layers can get out of reference to each other, calling into question the validity of the entire dataset.

PLSS – The PLSS needs to represent the most recent surveys to be accurate enough to locate data tied to PLSS. Recent survey information needs to be used to recompute GCDB, which is then used to recompute parcel boundaries.

Parcels - The risks of incomplete parcel information lie primarily with the inability to look at ownership comprehensively anywhere in Idaho. The ability to quickly find and map information related to parcel locations based on name or address is crucial to emergency services, resource management, property valuation analysis, and siting analysis.

Jurisdictional boundaries must be accurately delineated to minimize duplicate response or no response to issues involving government or emergency services. Trespass costs money after the fact.

There may be delays in the permitting process because adjacent parcels are not accurately defined which may hinder economic development. Revenues may be lost from inaccurate taxation. In short, anyone dealing with land-based issues is going to be less efficient in

determining ownership, land status, and boundaries if they must constantly gather information from paper documents.

4. INVENTORY

4.1 Stakeholders

Not yet compiled.

4.2 Data Sources

Authors -

Spatial Reference

BLM
US Forest Service (USFS)
US Bureau of Reclamation (BoR)
Army Corp of Engineers (CoE)
National Geodetic Survey (NGS)
County and private surveyors
IDL, ITD
Private owners (Potlatch, Bennett, Boise, etc.)
Indian Tribes

PLSS

BLM, USFS
County and private surveyors
IDL, ITD

Parcels

County Assessors
County and private surveyors
Cities
BLM, BOR, USFS
IDL
Private owners (Potlatch, Bennett, Boise, etc.)
Indian Tribes

Stewards -

Spatial Reference

BLM, USFS, BOR, CoE, NGS
County and private surveyors

PLSS

BLM, USFS
IDL
County and private surveyors (authorized)
Indian Tribes

Parcels

County Assessors
Idaho State Tax Commission (STC)
County and private surveyors
BLM, BOR, USFS
IDL
Indian Tribes

Integrators -
 Spatial Reference
 ITD
 PLSS
 BLM
 Parcels
 Not identified

4.3 Current Status

Spatial Reference – This layer does not currently exist. Spatial Reference information from the GCDB could be collated as a starting point for this layer. The coordinates of HARN stations within the state could also be included, as could ITD monumented locations. Many private surveyors and federal agencies have also collected corner or control locations throughout the state. Some of this data has been used to recompute GCDB. Very little of it is currently collected in a central location, and some is not tied to a standard coordinate base. Most of this information is not easily accessible, nor is there information about how to use this layer.

PLSS – GCDB is currently collected by Idaho BLM’s GCDB section and is available by township. A full description of this process is outlined at the BLM’s LSIS website: http://www.lsi.blm.gov/metadata/GCDB_metadata.htm. Approximately 85 percent of the GCDB is complete for Idaho.

Of the total 2,490 townships, 2,105 are completed, 385 townships are uncollected or partially collected:

- 34 townships are very complex
- 142 townships need the Amended Protraction Diagram (APD) process done
- 209 townships are protracted and have been through the APD process and are now awaiting conversion to GCDB

There is no mechanism in place to upload new Spatial Reference data and recompute the GCDB.

Parcels – Cities and counties maintain and distribute private ownership information. BLM and other federal agencies maintain and distribute federal ownership information. IDL maintains and distributes state ownership information. This data is not available in a central location.

Parcel data can be collected as scanned images, registered images, vectorized images, digitized plat maps, metes and bounds (COGO) data entry or from field survey data. In a digital vector format, parcels can be stored as polygon or line features. Attributes, primarily the PID, can be attached directly to the polygon or structured as text, which can potentially be linked to the closed lines or polygons.

The recommended minimum standard proposed in this document will be a polygon feature with an attached PID.

The status relative to private, fee-simple parcels is as follows:

- 25 counties have 80 percent or more digital parcels at the recommended minimum standard.
- 14 counties have less than 80 percent of parcels at the recommended minimum standard.
- 1 county has some digital data, but it is unregistered.
- 4 counties have no digital data.

Approximately 60 percent of private parcels are completed to the recommended minimum. Given a total of 900,000 parcels, this leaves 360,000 parcels to be done. Within two years this number will be lower because at least three more counties will be complete to the recommended minimum standard.

4.4 Business Needs

The cadastral themes would promote standardization of data and centralized location for access. BLM and other federal agencies need parcels for emergency operations, resource management, planning, engineering, recreation, mining, and realty and land research. Framework data that integrates private, state, tribal, and federal data will save tax dollars and avoid duplication of effort.

State and local agencies use PLSS and parcel data to locate business interests and provide base information for economic development.

4.5 Challenges

Spatial Reference

1. Costs for locating and monumenting new or existing locations.
2. Lack of a coordinating entity to collect and distribute best available data
3. No standard datum.
4. Reticence by surveyors to release their surveyed control or corner location data.

PLSS

1. Lack of funding did not allow BoR to complete the statewide GCDB compilation.
2. GCDB in its current state is not accurate or reliable statewide.
3. No process in place to provide BLM with updated corner information. Spatial Reference layer will be the location for the control.
4. BLM may not be funded to host and QC GCDB data.

Parcels

1. Costs to counties of “going digital.”
2. Reticence by counties to share data because of cost recovery or privacy concerns.
3. No mechanism currently for non-private or tax-exempt owners to provide data to counties.
4. No standard spatial data format among counties.

5. Cost and effort of integrating tax-exempt parcels (i.e. federal or state) into county data.

5. STANDARDS

5.1 Standards

FGDC Data Content Standards

National Geodetic Control Data Content Standard
FGDC-STD-001 Standard for Digital Geospatial Metadata
FGDC-STD-002 Spatial Data Transfer Standard
FGDC-STD-003 Cadastral Data Content Standard
FGDC-STD-011 US National Grid

ESRI Data Models

ArcGIS Land Parcel Data model

Various National Association Data Models and Standards

IAAO Standards on Digital Cadastral Maps and Parcel Identifiers

Federal Models and Standards

BLM Cadastral Idaho's current internal working standards for collection of GPS control data
BLM Manual 1275 for Land Status Records
NILS BLM Standards for Master Title Plats
BLM Surveying Manual
USGS National Map Standard

State Models and Standards

State Tax Commission rules
County Assessors recommended GCDB to be parcel framework layer

Local Models and Standards

None identified.

6. IMPLEMENTATION STRATEGY

6.1 Implementation Approach

Spatial Reference – Montana is currently working on something along these lines in Lewis & Clark County. Washington has a Spatial Reference model implemented at WDoT. These should be evaluated for the applicability to Idaho.

An inventory of GCDB corners, ITD monumentation, and federal, state and private surveys should be conducted. This data should be collected, centralized, documented, and compiled into a layer, which would be accessible from ITD or INSIDE Idaho, and possibly BLM. The

inventory would include recommended attributes from Section 7.5 and stored in a standard projection.

PLSS – Organizational tasks include:

1. Establishing an oversight committee for the initial development and on-going maintenance.
2. Development of a statewide database and web server to uniformly collect, organize, track, and report development, and to serve and communicate PLSS data to Consumers and other Stakeholders. Both state and national BLM sites currently have this up and running.
3. Inventory and involve cadastral data stakeholders throughout the state.
4. Secure consistent funding source for Idaho BLM's GCDB section.
5. Idaho BLM currently produces text files containing GCDB information. This should be produced in a standard spatial format(s).
6. Migration to NILS may take care of some of these steps, but full implementation is years in the future.
7. Surveyors can collect better Spatial Reference data and recompute GCDB.
8. Recomputed GCDB is sent to BLM for quality control and distribution.

Parcels –

1. GCDB is created for each county with best available Spatial Reference data.
2. Individual counties collect private parcel data registered to the GCDB in the minimum data standard
3. Federal, tribal, and state agencies with ownership collect their ownership data registered to GCDB or better control and provide or make this available to the pertinent county.
4. County distributes data.
5. Oregon's ORMAP program may be a model to follow. www.ormap.org

6.2 Implementation Team

Spatial Reference – ITD, BLM, and the State Geodesist would be responsible for collecting current control points, determining accuracy, and centralizing data storage.

PLSS – BLM would be the lead agency for PLSS. Much of the infrastructure is in place. A notification process would be implemented to notify stakeholders of updates to GCDB.

Parcels – Each county currently collects ownership data for private lands. Those that don't would need to be encouraged to do so. Some funding is currently available to assist counties. Federal and other tax-exempt landowners need a mechanism for providing their ownership data to counties for integration into the counties' database.

6.3 Data Development

Spatial Reference – The primary hurdle for this layer is a centralized collection site. Surveyors are constantly locating PLSS corners for individual projects, often with State Plane or other real-world coordinates. A process needs to be put in place to allow authors to upload their coordinates to this collection site. This is a high priority layer since the Spatial Reference locations drive the accuracy of the other cadastral layers.

PLSS – Without additional funding, the BLM will be done with GCDB in five years. Most of the remaining townships are in unsurveyed areas, so for practical purposes the GCDB is in maintenance mode. There is not a process for updating GCDB with better corner information. This layer is a lower priority since it is almost complete.

Parcels – Most counties have some digital parcel program in place. Effort should be put toward ensuring that each county meets the minimum recommended requirement for data structure. There is some funding and technical support available from IDWR, ITC and perhaps grants to get this done. This layer has the highest priority because it has high utility to many business functions whether or not it is registered to the most accurate Spatial Reference data.

6.4 Data Maintenance

Spatial Reference – The intent is to make this layer self-maintaining. An RLS or others could submit data to a website or server to be included in the layer.

PLSS – Once BLM completes the GCDB their primary responsibility will be updates on BLM or other federal land. New coordinates collected by RLS would be used to recompute the GCDB. This recomputation would be done by BLM where the township is primarily federal land. Where the township is primarily non-federal land, the recomputation could be done by an RLS or others trained by BLM in the recomputation process..

Parcels – Counties and cities will maintain private parcel information. Federal and state agencies that own land should be encouraged to provide parcel updates to counties for inclusion in the county parcel layer. Each federal, state, or tribal parcel could then be assigned a PID.

6.5 Data Distribution

Spatial Reference and PLSS data would be distributed through a web-based interface maintained by Implementation Team members. Distribution would be continuous.

Parcel data would be distributed through county services or INSIDE Idaho. Counties would provide data to INSIDE Idaho on an annual basis. Current updates could be acquired at the county. Fees associated with acquiring county data must be addressed.

6.6 Implementation Schedule

Not yet developed.

6.7 Cost Estimates

Spatial Reference – For densification of the Continuously Operating Reference Stations (CORS) to an additional 20 sites would be approximately \$615,000. The Geodetic Control I-Plan specified \$17,500 per site and total for sites and maintenance as \$750,000. This would create a state-controlled network with a state server and quality-controlled data.

PLSS – BOR has not completed the statewide GCDB compilation project. This requires approximately \$50,000 to complete. Recomputing GCDB in areas with improved Spatial Reference data would be another task to fund. Ongoing funding for BLM GCDB efforts needs to be estimated as well.

Parcels – According to an FGDC survey digitization of county parcels using COGO costs \$10/parcel including a PID attribute, and metadata. There are an estimated 360,000 parcels in Idaho that need to be brought to the recommended minimum standard. Therefore, the total cost for private parcels is \$3.6 million.

A recent survey of counties by Idaho Department of Water Resources (IDWR) for the Cadastral Committee indicates that 60 percent of parcels are digitized to the recommended minimum standard. As for the \$10 cost per parcel, most contracts IDWR has had with counties run \$5-6 per parcel, but there are variables such as rural versus urban mapping.

Counties should have a reliable method of funding the transition to digital mapping. Other states (i.e., Minnesota and Oregon) have reserved a portion of recordation fees for this purpose. This is a legislative issue that would need much work (see Recommendation 7.3.1).

IDL estimates state parcels will be completed in September 2003 without additional funding.

BLM's Master Title Plat (MTP) films will be scanned and georeferenced by December 2004 at a total cost of \$300,000.

BLM expects to disseminate BLM and USFS aliquot parts land status extracted from the GCDB through Inside Idaho in early 2004. Vector data will be available for download through the Internet and updated annually. In September 2004, NILS will debut the federal ArcGIS Parcel Management program. Idaho BLM will begin to digitally create and verify quality of the MTPs. As this work progresses, it will replace the 1:100,000 land status vectors.

BOR will estimate completion date for their parcels (2008?)

A total estimated cost (less state parcels) is \$3.9 million.

7. RECOMMENDATIONS

7.1 Recommendations for Institutional and Financial Initiatives

Spatial Reference – None at this time.

PLSS – None at this time.

Parcels – Counties that provide data free of charge or at nominal cost can participate in fee sharing for parcel maintenance (see Legislative recommendation below). The rationale is if a county is charging for data, it must be recouping costs. The question remains unsettled as to whether there is really a need for recouping costs. There may very well be a need for start-up and initial completion of the spatial data, but ongoing maintenance costs may be considered a business cost.

7.2 Recommendations for Data Stewardship and Integration

Spatial Reference – ITD hosts the State Geodesist and may be a logical place to warehouse and distribute this data. Another choice would be INSIDE Idaho. This layer is not large, so having it available on a server would not be overly burdensome. A data inventory is necessary, and all point locations with their attributes would be placed in a layer on the server. Points could then be extracted from this layer and used for updating PLSS or Parcel layer geometry. Input to this layer would be done in a similar manner with points provided to the server, checked for attribution, and inserted into the layer.

PLSS – BLM should create and distribute initial GCDB. BLM, county, and private surveyors should provide updates to Spatial Reference that would be used to recompute new GCDB. This new GCDB would be distributed through BLM's state and/or national servers. This should be done in one or more standard formats. The current flat file format contains all the data. It must be determined whether there are tools already developed that allow full creation of the data.

The Idaho Geospatial Committee (IGC) should acknowledge BLM's GCDB data as the basis for accurate, statewide PLSS, and parcel mapping. IGC should also support the continued or increased funding for the Idaho BLM's GCDB program.

Parcels – Parcels determined to be cost-free public data should be served to the public through the INSIDE Idaho based on annual updates. Parcel data determined by the Author to be sensitive, private, or that requires a fee to receive should have metadata posted at INSIDE Idaho with specific information on how the data is distributed. Links to each county could be made from INSIDE Idaho to the local contact. Current parcel data should be acquired directly from the county.

INSIDE Idaho may be the primary integrator of tax-exempt and private parcel initially. This will be a large task to begin the integration of tax-exempt and private parcel data. Once this data is integrated, individual counties would assign PIDs to these tax-exempt parcels.

7.3 Recommendations for Legislative Initiatives

A funding source should be found to insure all counties have sufficient funding to acquire (and maintain?) a digital parcel layer. One idea is adding a fee to the usual recording fee that is collected when property is transferred. This fee could be put in a fund and distributed to counties as a part of their parcel maintenance budget or to assist counties in digital conversion.

7.4 Recommendations for Policy, Rule and Procedural Changes

1. The IGC should recommend that licensed surveyors be trained by BLM to oversee recomputation of GCDB from better reference coordinates. This would not infer any liability by the surveyor, but requires metadata.

2. Agreement(s) should be completed to encourage or require federal, state, and other tax-exempt entities owning land to share or record their parcels with the appropriate county and, when possible, provide up-to-date spatial parcel data for inclusion in the county's digital parcel layer. The county would assign each parcel a PID to be maintained by the county. No cost estimate is available for this recommendation. This could be an Administrative Rule from the ITC.

7.5 Recommendation for Data Standards

All Cadastral layers will be in a supported coordinate system.

Spatial Reference – This is a control point with a GCDB-based unique Corner Identifier or other appropriate identifier, horizontal and vertical accuracy assessment, date, collector, and Datum. Refer to National Geodetic Control Data Content Standard.

PLSS – The PLSS will be comprised of at least three feature layers; polygon, line and point. All of these are supported by the current GCDB standard.

Minimum polygon feature attributes will include: Meridian, Township, Range, Partial Range, Section, Quarter, QQ, Government Lot, Survey Type, and Number, TractID, Platted Acres, and Horizontal Accuracy.

Minimum Line features should indicate a line type of Township, Section, quarter, QQ, Lot or Special Survey. Additional information could include Horizontal Accuracy, Bearing, and Distance, and additional GCDB line attributes.

Minimum Point feature attributes will include: GCDB Corner Identifier, Meridian, Township, Range, Horizontal Accuracy, date, and collector. Much of this will be redundant with the Spatial Reference layer. (The corner identifier with M, T, and R can be used in combination for linking to corner records.)

Parcels – Parcels will be comprised of polygons with the PID as an attribute. Line and point features should be included in the parcel model. As an interim product, a feature type could be georeferenced image where the Plat maps have been scanned and georeferenced to the GCDB, or other survey control layer. This would be a first step toward polygonal parcel geometry but not a minimum standard.

The parcel features should use geometry from the GCDB when parcels are aliquots of the PLSS. To create parcels described by metes and bounds, starting points should be GCDB corners when so called. Wherever GCDB coordinates are not yet available, parcels should use geometry coincident to the USGS 1:24,000 PLSS data. Where survey control is available, re-computed GCDB should be used to develop parcel geometry. When a metes and bounds description calls along a stream with no bearings and distances specified, parcels should use geometry coincident to the NHD where available. When a metes and bounds description calls along a ridgeline with no bearings and distances specified, parcels should use geometry coincident to the WBD where available.

A PID would be assigned to all parcels, both private and non-private.

Core-plus attributes are attributes that add value to the parcel information and make the information more robust for many applications supporting business processes. Core-plus attributes have considerable variation from jurisdiction to jurisdiction. They are usually available from the federal, state, and assessors' databases. Core-plus attributes include Owner Type (tribal, federal, state, county, local/municipal, private, non-profit, other, unknown), Improved (whether the property has a structure or other development versus vacant and undeveloped), a Geometry Source Reference and date (survey, deed, etc.), an Owner Source Reference and date (conveyance document, plat, etc.), Owner Name for privately owned parcels, Assessment/Value information, Basis of Bearings, and assessment information metadata. Appropriate privacy policies regarding both intergovernmental and public availability of this data have yet to be developed and accepted and will not be addressed in this Plan.

Minimum line feature attributes should include: Bearing /Distance, Basis of Bearing, date and collector, relation to other themes (e.g., NHD, street centerline, etc.). Attribution for these items may be done during parcel maintenance rather than during initial collection.

Minimum point feature attributes should include: GCDB corner identifier and accuracy assessment.

8. PLAN UPDATE CYCLE

This plan will be evaluated every two years. Any legislation or recommendations may be proposed more frequently.